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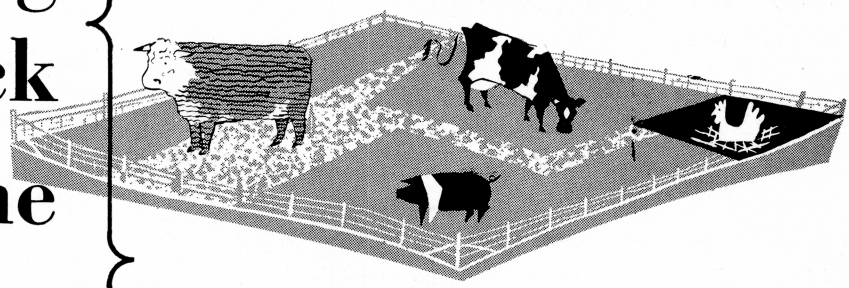

by Earl O. Heady and William G. Brown

THE WAY you manage your farm—what you produce and how you produce it—depends partly on your family goals. The outstanding goal of most farm families is to attain the greatest possible satisfactions of life.

This wouldn't be hard if we all had unlimited funds and resources. But most of us don't. So we can plan for only those "sub-goals" we can get with the abilities and resources we have. Individuals differ greatly in preferences for these sub-goals. Some of us place more emphasis on one goal; others place more emphasis on another. The task is to gain the right combination of several goals; in planning, we seldom try to gain one goal entirely apart from other goals.

What are some of the sub-goals which contribute to family satisfaction? Usually, greater profits contribute to greater satisfaction because of the things we're able to buy. But we can go so far toward making profits that we don't have time for rest, leisure, vacations or family conferences. At some point, some of these goals take precedence over profits.

Other sub-goals also may compete with profits. One of these goals is cutting risks. How can you have a more stable income? You could use your resources to try to make greatest profits. But profit prospects aren't always certain. A "big" profit prospect may involve a lot of risk—feeding heavy cattle, for example. If you guess the market right, you can almost make a fortune in a single year. But if your "guesses" are wrong, you can "break" yourself in one year. There are some enterprises which don't have so much risk and give lower but steadier incomes. Dairying and chickens are examples.

How Much Risk?

How much risk you want to take, or how much profit you want to try for, depends on many circumstances. There isn't any kind of farming which doesn't have risks and profits tied together. Some enterprises have more certainty and less profit; others have more profit and less certainty. You can choose how you want to combine profit and certainty by the enterprises you select.

If you have plenty of capital, without many borrowed funds, you might want to shoot at highest profit enterprises—even if risks are fairly high. In this capital position, you won't go broke if things do go wrong the first year. You'll still be in business to take advantage of high profits when they do come.

If you have few funds or large amounts borrowed, you may want to stay away from enterprises with too many "ups and downs"—even though profits average high over a period of years. If you hit the "down side" on losses in the first year, you might not have enough capital to tide you over until you can get the "high average profits" of the up years.

The number of dependents you have may affect your choice between profit prospects and chance taking. Your age also is important. An older man doesn't have a good chance to start again if he takes excessive chances and losses. How you combine goals in farming must depend on the circumstances of your individual family.

With this in mind, we studied the riskiness of different livestock enterprises in past years. We found what combinations of livestock enterprises gave the lowest risk. Of course, what happened in past years won't tell us exactly what's going to happen in the future. But it can give us some experience to help in making our future plans. Our figures relate only to risk from price changes and the resulting variations in income.

Chart 1 compares nine different livestock enterprises. Returns from dairy cows and chickens have been most stable. Returns from cattle feeding have been most risky and variable. The stability of dairy and poultry probably goes a long way in explaining

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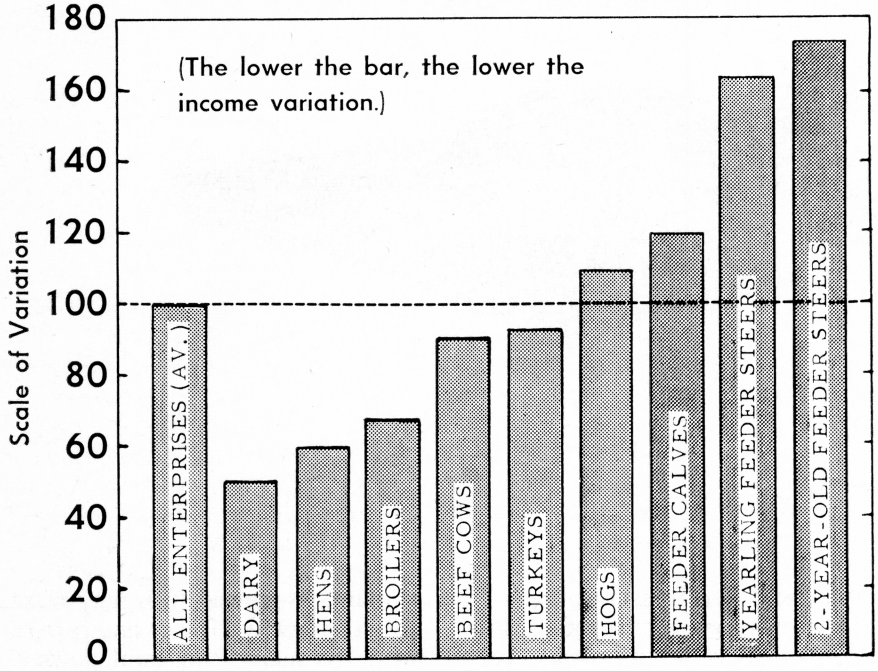
CHART 1. How Livestock Enterprises Differ in Income Variation.



why most Iowa farms have these enterprises—though they're seldom the main enterprises. The riskiness of cattle feeding explains partly why this enterprise is used mainly by people with a relatively good capital position.

As the figures in the table show, no one would have gone broke in any one year in dairying. But neither would he have made extremely large profits in any one year. In contrast, 2-year-old feeder steers have returned as much as $189 above $100 worth of feed fed. But they've given losses as high as $83 per $100 of feed fed in other years.

Combining Enterprises

One way to reduce risk is to combine two enterprises. But how far should you go? If you've been producing hogs, adding a few hens may reduce income variation and risks. If you remove some risk by adding a few hens, can you go on adding hens and reducing risk until you have all hens and no hogs?

The answer is "no" for most enterprises. Adding some of a second enterprise can reduce variations in income because it offsets variations in the first enterprise. But if you add enough of the second enterprise, its variations outbalance those of the first enterprise. Then income variations increase. In other words, there's a "best" amount of resources which can be used for two enterprises if you want to cut risks or variations in income to a minimum. Using more or less of this amount of resources for each enterprise increases income variation.

But enterprises can't have the same type of income variation if your purpose is to minimize variation. Fat cattle and a beef cow herd are good examples of this. When the price for one is low, the price for the other generally is low. Combining these two enterprises, rather than specializing in one alone, won't do much to reduce risks and income variability.

Which Combinations?

In our study, we tried to find out just which combinations of enterprises, or use of resources, would have given lowest risks or income variation in the past. The results are shown in chart 2 for most pairs of livestock enterprises. (We don't have enough information on sheep, so this enterprise isn't considered.)

Looking at chart 2 we see that, for hogs and laying hens, use of 20 percent of resources for hogs and 80 percent of resources for laying hens would have given lowest income variation in the years studied. For dairy-hen combinations, 60 percent of resources for dairy cows and 40 percent for hens would have given the lowest income variability. For hogs and 2-year-old feeder steers, 70 percent of the resources should have been used for hogs. For combinations of hogs and feeder calves, hogs should have received about 77 percent of resources and cattle the remainder. Hogs should have received only 31 percent of the resources and beef cows 69 percent for combinations of these two enterprises.

For combinations to get the lowest possible income variation, the more risky enterprises usually should have the smallest proportion of resources. For example, beef cows would have about 77 percent, feeder calves the remainder; yearling feeder steers would have 60 percent, and 2-year-olds would have 40 percent; broilers would have a greater proportion than any cattle feeding enterprise but would have a smaller proportion than dairy cows.

TABLE 1. Lowest and Highest Return per $100 Feed Fed for the Last 30 Years.

	Hogs	Dairy	Laying hens	Broilers	Turkeys	Beef cows	Feeder calves	Yearling feeder steers	2-year-old feeder steers
Greatest loss in any 1 year	$ 34	0	$ 18	$ 12	$ 11	$ 30	$ 55	$ 67	$ 83
Greatest profit in any 1 year	$147	$122	$117	$124	$185	$ 76	$109	$169	$189

As chart 2 shows, dairying alone in past years would have given less income variation than combinations of dairy cows with hogs, beef cows or any of the other three types of feeding enterprises. Laying hens were more stable than any combination of laying hens and turkeys. Broilers alone gave less income variability than any combination of broilers and turkeys.

Three Enterprises?

Our findings show that the main gains in reducing income variations come from combining two enterprises. Very little gain in "averting risk" comes from adding a third.

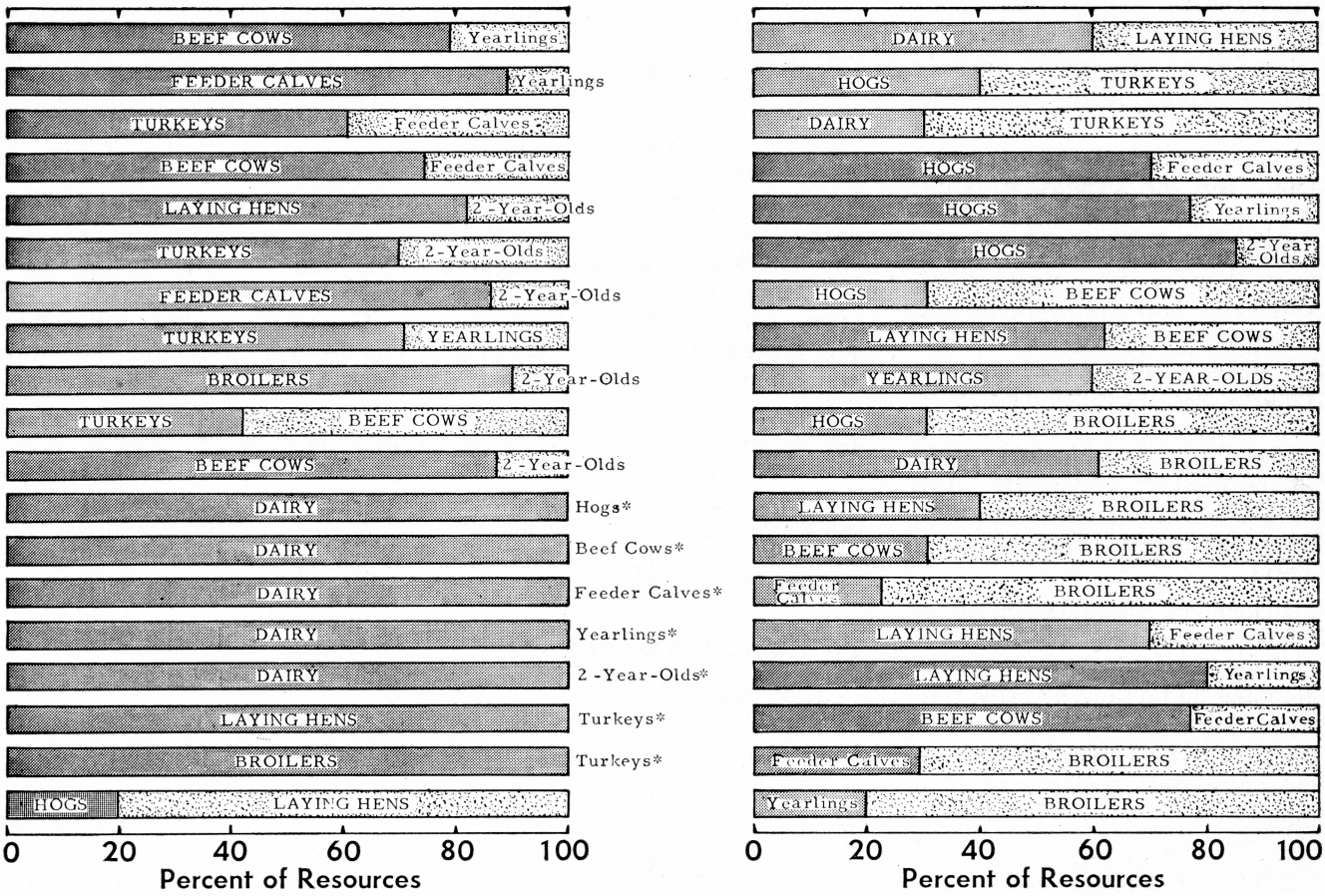
This shows up when we study the income variation between enterprises. By "income variation," we mean the percent by which income changes from year to year. For example, if income in each of three years is $100, $120 and $84, the percent change between the first and second year is 20 percent; between the second and third year, it's 30 percent. The average percent change, or "income variation," in the three years is 25 percent.

Now let's see what the income variations are when we try three enterprises to reduce risk. Two-year-old steers alone have an income variation of 37 percent. By adding hogs, in the "best" quantity, we can reduce this variation to 22 percent. But adding laying hens as a third enterprise reduces it to only 18 percent. Dairying alone has 12 percent variation. Adding hens in "best" quantities to dairying reduces income variation for dairy and hens together to 11 percent; adding broilers as a third enterprise doesn't cause any change—leaving it at 11 percent.

The combinations pointed out above show use of resources which would have given the smallest risk or variation in the past. And the figures apply only to a series of years in which the ups and downs of one enterprise would offset the downs and ups of another enterprise. Some farm operators might want to use one stable enterprise, such as dairying or poultry, and then use farm outlook information to decide which other enterprises provide good profit prospects in a particular year.

But remember that the use of resources which will have the least possible risk is not necessarily the use that will provide the greatest profits. We've provided these figures because we know that many farmers must consider lessening risks, while others are able to plan to get greatest profits. Most probably try to get some satisfactory combination of income stability and profits.

CHART 2. Proportions of Resources for Pairs of Livestock Enterprises Giving the LEAST Income Variation.



*Adding any of the starred enterprises to the main enterprise shown does NOT reduce income variation.